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| EXAMINER |
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LOUIE, OSCAR A

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2136

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/765,719

**Applicant(s)**

BERESNEVICHIE ET AL.

**Examiner**

Oscar A. Louie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01/26/2004.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-41 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 01/04.

- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application  
 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This first non-final action is in response to the original filing of 01/26/2004. Claims 1-41 are pending and have been considered as follows.

#### *Examiner's Note*

1. The Applicant appears to be attempting to invoke 35 U.S.C. 112 6<sup>th</sup> paragraph in Claims 1 & 5 by using "means-plus-function" language. However, the Examiner notes that the only "means" for performing these cited functions in the specification appears to be computer program modules. While the claims pass the first test of the three-prong test used to determine invocation of paragraph 6, since no other specific structural limitations are disclosed in the specification, the claims do not meet the other tests of the three-prong test. Therefore, 35 U.S.C. 112 6<sup>th</sup> paragraph has not been invoked when considering these claims below.

#### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 39 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- Claim 39 which depends off of the independent method Claim 22 recites, “a computer program for controlling a computing platform to operate in accordance with claim 22,” where “a computer program” is never claimed as being “a computer readable medium with a computer program stored thereon which performs the method steps of...” Thus, making Claim 39 non-statutory as in accordance with 35 U.S.C. 101.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4, 22, 25, & 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US-6487665-B1).

Claims 1, 22, & 41:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process comprising,

- “(a system call monitor for) detecting predetermined system calls” (i.e. “At execution time, Microsoft Transaction Server monitors cross process calls at the object and interface level to determine if the caller is a member of a role permitted to make the call”) [column 2 lines 15-20];
- “(means for/a policy applicator for) applying a data handling policy to the system call upon a predetermined system call being detected” (i.e. “if the caller is a member of a role

permitted to make the call. If the caller is not permitted access, the call is blocked, preventing access to the object's functionality by unauthorized users”) [column 2 lines 15-20];

but Andrews et al. do not explicitly disclose,

- “the data handling policy is applied for all system calls involving the writing of data outside the process”

however, Andrews et al. do disclose,

- “At execution time, Microsoft Transaction Server monitors cross process calls at the object and interface level to determine if the caller is a member of a role permitted to make the call. If the caller is not permitted access, the call is blocked, preventing access to the object's functionality by unauthorized users” [column 2 lines 15-20];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, “the data handling policy is applied for all system calls involving the writing of data outside the process,” in the invention as disclosed by Andrews et al. since it is implied that all systems calls are monitored for the purposes of determining and controlling access.

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Claims 4 & 25:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 1 & 22 above respectively, further comprising,

- “predetermined system calls are those involving the transmission of data externally of the computing platform” [Fig 1 illustrates a system where the transmission of data is between a computer and a remote computer].

Claim 39:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 22 above, further comprising,

- “a computer program for controlling a computing platform to operate in accordance with claim 22” [Fig 13 illustrates a system that may be implemented as software for performing similar functions as Claim 22].

Claim 40:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 22 above, further comprising,

- “a computer platform configured to operate according to claim 22” [Fig 13 illustrates a system for performing similar functions as Claim 22].

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5. Claims 2, 3, 23, & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US-6487665-B1) in view of Choo (US-6981140-B1).

Claims 2 & 23:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 1 and 22 above respectively, but do not disclose,

- “the policy is to require the encryption of at least some of the data”

however, Choo does disclose,

- “the security database associated with key database 602 is consulted to determine whether the data packet received from user process 600 is to be encrypted prior to transmission across the network” [column 13 lines 14-17];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the policy is to require the encryption of at least some of the data,” in the invention as disclosed by Andrews et al. for the purposes of securing the data.

Claims 3 & 24:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 1 and 23 above respectively, but do not disclose,

- “a policy interpreter in its application of the policy automatically encrypts the at least some of the data”

however, Choo does disclose,

- “the security database associated with key database 602 is consulted to determine whether the data packet received from user process 600 is to be encrypted prior to transmission across the network” [column 13 lines 14-17];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “a policy interpreter in its application of the policy automatically encrypts the at least some of the data,” in the invention as disclosed by Andrews et al. for the purposes of securing the data.

6. Claims 5-7 & 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US-6487665-B1) in view of Hardy (US-4584639-A).

Claims 5 & 26:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 1 and 22 above respectively, but do not disclose,

- “(means for applying a data handling policy comprises a tag determiner for) determining any security tags associated with data handled by the system call”
- “(means for applying a data handling policy comprises a policy interpreter for) determining a policy according to any such tags and for applying the policy”

however, Hardy does disclose,

- “Each key includes a pointer to an object in the system corresponding to the identity of the key and also includes a tag indicating its key type and the scope of authority provided thereby” [column 4 lines 11-14];



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- “The kernel functions limit the generation of keys in accordance with predefined policies which guarantee the security of domains and other objects in the system” [column 4 lines 20-23];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “(means for applying a data handling policy comprises a tag determiner for) determining any security tags associated with data handled by the system call” and “(means for applying a data handling policy comprises a policy interpreter for) determining a policy according to any such tags and for applying the policy,” in the invention as disclosed by Andrews et al. since the usage of keys and tags are common determination factors of policies.

Claims 6 & 28:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 5 and 26 above respectively, but do not disclose,

- “the policy interpreter is configured to use the intended destination of the data as a factor in determining the policy for the data”

however, Hardy does disclose,

- “A plurality of factories, which are special domains having an ascertainable set of non-sensory keys, enable other domains to share resources without trusting one another” [column 4 lines 23-26];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the policy interpreter is configured to use the intended destination of the data as a factor in determining the policy for the data,” in the invention as

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disclosed by Andrews et al. since the address/domain (i.e. destination) would have to be known in order for the system to know where the data/system call came from, thus being able to correct apply the proper policy.

Claims 7 & 27:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 5 and 26 above respectively, but do not disclose,

- “the policy interpreter comprises a policy database including tag policies”
- “the policy interpreter comprises a policy reconciler for generating a composite policy from the tag policies relevant to the data”

however, Hardy does disclose,

- “Each key includes a pointer to an object in the system corresponding to the identity of the key and also includes a tag indicating its key type and the scope of authority provided thereby” [column 4 lines 11-14];
- “The kernel functions limit the generation of keys in accordance with predefined policies which guarantee the security of domains and other objects in the system” [column 4 lines 20-23];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the policy interpreter is configured to use the intended destination of the data as a factor in determining the policy for the data,” in the invention as disclosed by Andrews et al. since the usage of keys and tags are common determination factors of policies.

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7. Claims 8-12, 17-21, 29, 31-33, 36, & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US-6487665-B1) in view of Yoshioka et al. (US-5909688-A).

Claims 8 & 29:

Andrews et al. disclose a data handling apparatus and method for a computer platform using an operating system executing a process, as in Claims 1 and 22 above respectively, but do not disclose,

- “the computing platform comprises a data management unit”
- “the data management unit arranged to associate data management information with data input to a process”
- “(the data management unit arranged to) regulate operating system operations involving the data according to the data management information”

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit];
- “in a record of department in an entity management table corresponding to the above-mentioned organization template there are stored entity information corresponding to that record, an XID value of, for example, a technical department, a pointer to a section record which is a low-rank record, a pointer to a record for another department which is in the same rank as that department, and a pointer to that department which is the entity information item” [column 6 lines 9-17];
- “The data management unit 24 controls reading or writing of data between the database 25 and the memory 31” [column 12 lines 65-66];

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Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the computing platform comprises a data management unit" and "the data management unit arranged to associate data management information with data input to a process" and "(the data management unit arranged to) regulate operating system operations involving the data according to the data management information," in the invention as disclosed by Andrews et al. for the purposes of associating and tracking data processed in an operating system.

Claim 9:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- "the computing platform further comprises a memory space"
- "the computing platform is arranged to load the process into the memory space"
- "the computing platform is arranged to run the process under the control of the data management unit"

however, Hardy does disclose,

- [Fig 13 illustrates a memory arranged with other components to load and handle data processes];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the computing platform further comprises a memory space" and "the computing platform is arranged to load the process into the memory space" and "the computing platform is arranged to run the process under the control of the data management

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unit,” in the invention as disclosed by Andrews et al. since memory, loading a process into memory, and then executing or handling a process are common elements of an operating system’s functionality when incorporated according to a system as shown in Fig 13.

Claim 10:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- “the data management information is associated with at least one data sub-unit as data is input to a process from a data unit comprising a plurality of sub-units”

however, Hardy does disclose,

- [Fig 13 illustrates a system with a data management unit and several sub-units defining aspects of policy, work-flow, etc interfaced with an interface unit, a database, and a memory];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the data management information is associated with at least one data sub-unit as data is input to a process from a data unit comprising a plurality of sub-units,” in the invention as disclosed by Andrews et al. since the data management unit would associate data according to the policies of the subunits as data input.

Claim 11:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- “data management information is associated with each independently addressable data unit”

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however, Hardy does disclose,

- “The data management unit 24 controls reading or writing of data between the database 25 and the memory 31” [column 12 lines 65-66];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “data management information is associated with each independently addressable data unit,” in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 12:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- “the data management unit comprises part of an operating system kernel space”

however, Hardy does disclose,

- “The data management unit 24 controls reading or writing of data between the database 25 and the memory 31” [column 12 lines 65-66];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the data management unit comprises part of an operating system kernel space,” in the invention as disclosed by Andrews et al. since reading/writing to memory is typically an operation reserved for kernel space privileges.

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Claim 17:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- “the data management unit comprises a data filter to identify data management information associated with data that is to be read into the memory space”

however, Hardy does disclose,

- “The data management unit 24 controls reading or writing of data between the database 25 and the memory 31” [column 12 lines 65-66];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the data management unit comprises a data filter to identify data management information associated with data that is to be read into the memory space,” in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 18:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- “the data management unit further comprises a tag management module arranged to allow a user to specify data management information to be associated with data”

however, Hardy does disclose,

- [Fig 13 illustrates an interface unit interfaced with the data management unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the data management unit further comprises a tag management module arranged to allow a user to specify data management information to be associated with data," in the invention as disclosed by Andrews et al. for the purpose of allowing additional policies/control over the data management unit.

Claim 19:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 8 above, but do not disclose,

- "the data management unit comprises a tag propagation module arranged to maintain an association with the data that has been read into the process and the data management information associated therewith"

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the data management unit comprises a tag propagation module arranged to maintain an association with the data that has been read into the process and the data management information associated therewith," in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.



Claim 20:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 19 above, but do not disclose,

- “the tag propagation module is arranged to maintain an association between an output of operations carried out within the process and the data management information associated with the data involved in the operations”

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, “the tag propagation module is arranged to maintain an association between an output of operations carried out within the process and the data management information associated with the data involved in the operations,” in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 21:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 19 above, but do not disclose,

- “the tag propagation module comprises state machine automaton arranged to maintain an association between an output of operations carried out within the process and the data management information associated with the data involved in the operations”

however, Hardy does disclose,

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- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the tag propagation module comprises state machine automaton arranged to maintain an association between an output of operations carried out within the process and the data management information associated with the data involved in the operations," in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 31:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- "associating data management information with data as the data is read into a memory space"

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "associating data management information with data as the data is read into a memory spaces," in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

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Claim 32:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- “associating data management information with at least one data sub-unit as data is read into a memory space from a data unit comprising a plurality of data sub-units”

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “associating data management information with at least one data sub-unit as data is read into a memory space from a data unit comprising a plurality of data sub-units,” in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 33:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- “associating data management information with each independently addressable data unit that is read into the memory space”

however, Hardy does disclose,

- [Fig 13 illustrates a data management unit interfaced with a database, memory, and several subunits including a policy unit];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "associating data management information with each independently addressable data unit that is read into the memory space," in the invention as disclosed by Andrews et al. since the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 36:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- "the step (b) comprises sub-steps"
- "identifying an operation involving the data"
- "if the operation involves the data and is carried out within the process, maintaining an association between an output of the operation and the data management information"
- "if the operation involving the data includes a write operation to a location external to the process, selectively performing the operation dependent on the data management information"

however, Hardy does disclose,

- [Fig 14 illustrates several subunits that perform sub-steps and interact with a database];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the step (b) comprises sub-steps" and "identifying an operation involving the data" and "if the operation involves the data and is carried out within the process, maintaining an association between an output of the operation and the data management information" and "if the operation involving the data includes a write operation to a location

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external to the process, selectively performing the operation dependent on the data management information,” in the invention as disclosed by Andrews et al. since database sessions typically involve multiple steps (i.e. sub-steps) and involve data operations. In addition, the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

Claim 37:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 36 above, but do not disclose,

- “the step (b1) comprises: analysing process instructions to identify operations involving the data”
- “the step (b1) comprises: providing instructions relating to the data management information with the operations involving the data”

however, Hardy does disclose,

- “Fig 14 illustrates the state where the policy definition unit 26, the project definition unit 27, the work flow control unit 28, the standard report unit 29, and the special report unit 30 store generated data into the database 25 and retrieve the stored data from the database 25” [column 13 lines 9-13];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the step (b1) comprises: analysing process instructions to identify operations involving the data” and “the step (b1) comprises: providing instructions relating to the data management information with the operations involving the data,” in the

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invention as disclosed by Andrews et al. since database sessions typically involve data operations. In addition, the data management unit would have to have some association or elements of data identification in order to read/write data between the database and memory.

8. Claims 13-16, 30, 34, 35, & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andrews et al. (US-6487665-B1) in view of Johnson et al. (US-5684948-A).

Claim 13:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 12 above, but do not disclose,

- “the operating system kernel space comprises a tagging driver arranged to control loading of a supervisor code into the memory space with the process”

however, Hardy does disclose,

- “code executing out of any off-chip memory is defined to be in the simulated-Supervisor execution domain” [column 9 lines 1-3];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the operating system kernel space comprises a tagging driver arranged to control loading of a supervisor code into the memory space with the process,” in the invention as disclosed by Andrews et al. since it is common to have processes executed under varying credentials under kernel space, user space, memory space, supervisor space, etc.

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Claim 14:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 13 above, but do not disclose,

- “the supervisor code controls the process at run time to administer the operating system data management unit”

however, Hardy does disclose,

- “The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space” [column 9 lines 3-7];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the supervisor code controls the process at run time to administer the operating system data management unit,” in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 15:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 14 above, but do not disclose,

- “the supervisor code is arranged to analyse instructions of the process to identify operations involving the data”
- “the supervisor code is arranged to provide instructions relating to the data management information with the operations involving the data”

however, Hardy does disclose,

- “The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space” [column 9 lines 3-7];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the supervisor code is arranged to analyse instructions of the process to identify operations involving the data” and “the supervisor code is arranged to provide instructions relating to the data management information with the operations involving the data,” in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 16:

Andrews et al. disclose a data handling apparatus for a computer platform using an operating system executing a process, as in Claim 13 above, but do not disclose,

- “the memory space further comprises a data management information area under control of the supervisor code arranged to store the data management information”

however, Hardy does disclose,

- “The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space” [column 9 lines 3-7];



Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the memory space further comprises a data management information area under control of the supervisor code arranged to store the data management information," in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 30:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- "supervisor code administers the method by controlling the process at run time"

however, Hardy does disclose,

- "The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space" [column 9 lines 3-7];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "supervisor code administers the method by controlling the process at run time," in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 34:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- "the data management information is written to a data management memory space under control of the supervisor code"

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however, Hardy does disclose,

- “The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space” [column 9 lines 3-7];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant’s invention to include, “the data management information is written to a data management memory space under control of the supervisor code,” in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 35:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 34 above, but do not disclose,

- “the supervisor code comprises state machine automations arranged to control the writing of data management information to the data management memory space”

however, Hardy does disclose,

- “The simulated Supervisor domain supports read/write access to all processor 202 registers, to all memory mapped peripherals located in off-chip memory, and to all off-chip memory locations in the processor address space” [column 9 lines 3-7];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the supervisor code comprises state machine automata arranged to control the writing of data management information to the data management memory space," in the invention as disclosed by Andrews et al. since the supervisor domain controls processes prior to and including through, run time.

Claim 38:

Andrews et al. disclose a data handling method for a computer platform using an operating system executing a process, as in Claim 29 above, but do not disclose,

- "the process instructions are analysed as blocks"
- "each block defined by operations up to a terminating condition"

however, Hardy does disclose,

- "the privilege level of the code (and/or data) in each of a plurality of address blocks addressable by the processor" [column 2 lines 41-42];
- "The bit being set indicates that the corresponding address block has one privilege level and the bit being cleared indicates that the corresponding address block has the other privilege level" [column 2 lines 46-48];

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the applicant's invention to include, "the process instructions are analysed as blocks" and "each block defined by operations up to a terminating condition," in the invention as disclosed by Andrews et al. since process instructions are typically handled as blocks by a processor and would have a condition for completion.

*Conclusion*


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Oscar Louie whose telephone number is 571-270-1684. The examiner can normally be reached Monday through Thursday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser Moazzami, can be reached at 571-272-4195. The fax phone number for Formal or Official faxes to Technology Center 2100 is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OAL  
08/13/2007

Nasser Moazzami  
Supervisory Patent Examiner

  
8,14,07